Greenhouse

Greenhouses

A greenhouse is a structure where plants can grow in a warm, protected environment.

Features and benefits of greenhouses

Greenhouses protect plants from bad weather but they also allow sunlight to reach plant leaves. Sunlight also warms the air inside the greenhouse. This trapped air provides warmth for the plants, which helps them to grow.





Greenhouses usually have windows or vents that open to stop the air inside from getting too hot.

Materials used to make greenhouses

Greenhouse frames need to be strong and lightweight. Wood, metal and PVC plastic are often used. The coverings must be transparent or translucent, strong, and waterproof. Plastic and glass are common coverings.

Mini greenhouses

Mini greenhouses have similar features to larger greenhouses but can be used where space is limited.



cold frame

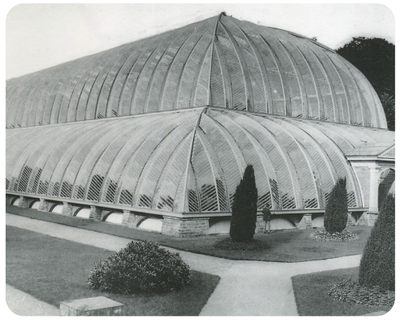


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Significant designers

All greenhouses provide protection and warmth for plants, but the materials, size and design can vary greatly.

Sir Joseph Paxton designed the Great Conservatory at Chatsworth House, Derbyshire, in 1840. The structure was built out of iron and covered with curved glass panels.



Great Conservatory, Derbyshire

Sir Nicholas Grimshaw designed the biomes at the Eden Project, Cornwall, in 2001. The structures were built using a steel frame covered with transparent, hexagonal plastic panels.

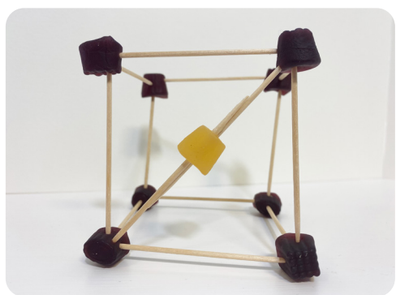


Eden Project, Cornwall

Strengthening structures

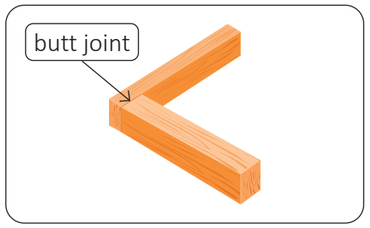
A frame is a 3-D structure with thin, rigid components which usually has an outer covering. Frame structures can be strengthened by adding diagonal struts to create triangular shapes.

Models of frames can be made using cocktail sticks and small jelly sweets. Their strength and stability can be improved by adding extra diagonal struts.

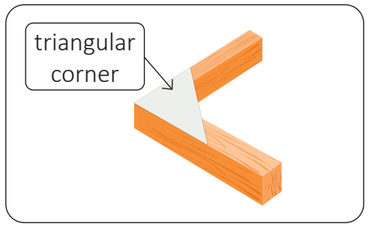


Butt joints

Butt joints occur when two pieces of wood are joined by gluing their ends together.



Butt joints can be strengthened by gluing a triangular corner over the joint.



Hot glue gun

A hot glue gun can be used to make strong joints. The advantages of a hot glue gun are:

- It allows melted glue to go onto a surface smoothly and neatly.
- The user can direct the glue to exactly where it is needed.
- The glue quickly hardens as it cools.

Safety rules must be followed when using hot glue.

Glossary

hot glue gun	A tool that heats and melts glue to be applied to a surface.
rigid	Not able to be bent.
transparent	A material that allows light to pass through and can be seen through.
translucent	A material that allows some light to pass through, but objects appear blurry.
vent	A small opening that allows air to flow in and out of enclosed space.

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